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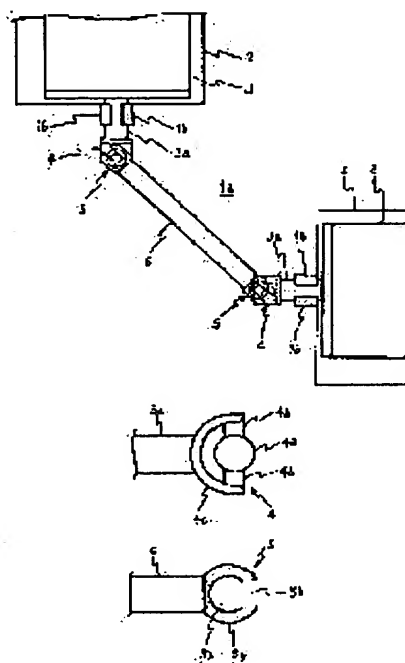
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(54) AIR CONDITIONER EMBEDDED IN CEILING**(57)Abstract:**

PROBLEM TO BE SOLVED: To facilitate an assembly by reducing the number of parts of a mechanism which interlocks a wind-direction changing plate of an air conditioner embedded in a ceiling.

SOLUTION: The tip of either a rotary shaft 3a of a wind-direction changing plate 3 adjacent to three corner parts 1a of a decorative panel or an interlocking shaft 6 which interlocks the wind-direction changing plate 3 is provided with a male side joint member 4 which is equipped with a support 4c which surrounds a center sphere 4a and opens its front and both sides, and a strut 4b connecting the support 4c with the upper and lower parts of said sphere 4a. The tip of the other shaft is provided with a female side joint member 5, which forms the first slit 5b having the smaller width than the diameter of the sphere 4a to insert the same sphere 4a into a cylindrical hole 5a in parallel to the cylindrical hole 5a at a spherical body 5g that forms the cylindrical hole 5a inside to connect the male side joint member 4, and which forms the second slit 5c to insert the strut 4b into the cylindrical hole 5a at a right angle and oscillate it, thus connecting the male side joint member 4 with the female side joint member 5.

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CLAIMS

[Claim(s)]

[Claim 1] In the head-lining flush type air conditioner which formed the modification plate, respectively the neighborhood of a makeup panel -- an outlet -- preparing -- these outlets -- a wind direction -- the wind direction which the three corner sections of said makeup panel adjoin -- with the rotation shaft of a modification plate said -- a wind direction -- with the base material which surrounded the central sphere at the head of one shaft with the interlocking shaft which interlocks a modification plate, and carried out opening of the front and the method of both sides to it The male side joint member equipped with the stanchion which connects this base material and said spherical upper and lower sides is prepared. To the spherule which formed the cylindrical bore in the interior in order to connect said male side joint member at the head of another shaft The first slit of width of face smaller than the diameter of this sphere for inserting said sphere in said cylindrical bore is formed in said cylindrical bore at parallel. The Metz side joint member in which the second slit for said stanchion inserting in a right angle and rocking was formed to said cylindrical bore is prepared. the wind direction of an outlet which connected said Metz side joint member with said male side joint member, and was established on all sides [said] -- rotating any one of the modification plates -- said interlocking shaft -- minding -- other wind directions -- the head-lining flush type air conditioner which makes it the description as it comes to interlock in a modification plate.

[Claim 2] said wind direction -- the head-lining flush type air conditioner according to claim 1 characterized by preparing said male side joint member at the head of the rotation shaft of a modification plate, and coming to prepare said Metz side joint member at the head of said interlocking shaft.

[Claim 3] said wind direction -- the head-lining flush type air conditioner according to claim 1 characterized by preparing said Metz side joint member at the head of the rotation shaft of a modification plate, and coming to prepare said male side joint member at the head of said interlocking shaft.

[Claim 4] The head-lining flush type air conditioner according to claim 1 to 3 characterized by coming to prepare the taper section in the both sides of the inlet-port section of the first slit of width of face smaller than the diameter of this sphere for inserting said sphere of said Metz side joint member.

[Claim 5] The head-lining flush type air conditioner according to claim 1 to 4 characterized by preparing heights and becoming the both sides of the inlet-port section of the second slit for said stanchion of said Metz side joint member to insert in and rock so that the width of face of this inlet-port section may become narrower than the diameter of said stanchion.

[Claim 6] said male side joint member -- said wind direction -- the head-lining flush type air conditioner according to claim 1 to 5 characterized by coming to fabricate to the rotation shaft of a modification plate or said interlocking shaft, and one.

[Claim 7] said Metz side joint member -- said wind direction -- the head-lining flush type air conditioner according to claim 1 to 6 characterized by coming to fabricate to the rotation shaft of a modification plate or said interlocking shaft, and one.

[Claim 8] said Metz side joint member and said wind direction -- a connection with the rotation shaft of a modification plate, or said interlocking shaft -- said wind direction -- the head-lining flush type air conditioner according to claim 7 characterized by coming to prepare a body thicker than the rotation shaft or said interlocking shaft of a modification plate.

[Claim 9] any one place of the four corner sections of said makeup panel -- said wind direction -- the driving gear for rotating a modification plate -- preparing -- one driving gear -- four wind directions -- the head-lining flush type air conditioner according to claim 1 to 8 characterized by a modification plate interlocking and rotating.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention -- a head-lining flush type air conditioner -- being involved -- more -- a detail -- a wind direction -- it is related with the configuration of the transfer device of a modification plate.

[0002]

[Description of the Prior Art] drawing 7 shows the conventional head-lining flush type air conditioner -- as -- four wind directions -- as the device in which the modification plate 3 is interlocked -- each -- a wind direction -- the wind direction which forms the universal fitting 20 which used the intermediate element as the cruciform member 22 at the head of rotation shaft 3a of the modification plate 3, and adjoins -- it was the configuration of having connected the universal fitting 20 of the axis end of the modification plate 3, and interlocking it with the interlocking shaft 6.

[0003]

[Problem(s) to be Solved by the Invention] However, with this configuration, it was [which it is called universal fitting which used the cruciform member] comparatively complicated, and since the device with many components mark was used, it was hard to assemble and there were problems, like cost is high. In this invention, in view of the above-mentioned trouble, it is easy to assemble and aims at offering a head-lining flush type air conditioner with few components mark.

[0004]

[Means for Solving the Problem] In the head-lining flush type air conditioner which formed the modification plate, respectively in order that this invention may solve the above-mentioned

technical problem -- the neighborhood of a makeup panel -- an outlet -- preparing -- these outlets -- a wind direction -- the wind direction which the three corner sections of said makeup panel adjoin -- with the rotation shaft of a modification plate said -- a wind direction -- with the base material which surrounded the central sphere at the head of one shaft with the interlocking shaft which interlocks a modification plate, and carried out opening of the front and the method of both sides to it The male side joint member equipped with the stanchion which connects this base material and said spherical upper and lower sides is prepared. To the spherule which formed the cylindrical bore in the interior in order to connect said male side joint member at the head of another shaft The first slit of width of face smaller than the diameter of this sphere for inserting said sphere in said cylindrical bore is formed in said cylindrical bore at parallel. The Metz side joint member in which the second slit for said stanchion inserting in a right angle and rocking was formed to said cylindrical bore is prepared. the wind direction of an outlet which connected said Metz side joint member with said male side joint member, and was established on all sides

[said] -- rotating any one of the modification plates -- said interlocking shaft -- minding -- other wind directions -- it has composition which interlocks a modification plate.

[0005] moreover, said wind direction -- it has the composition of having prepared said male side joint member at the head of the rotation shaft of a modification plate, and having prepared said Metz side joint member at the head of said interlocking shaft.

[0006] moreover, said wind direction -- it has the composition of having prepared said Metz side joint member at the head of the rotation shaft of a modification plate, and having prepared said male side joint member at the head of said interlocking shaft.

[0007] Moreover, it has the composition of having prepared the taper section in the both sides of the inlet-port section of the first slit of width of face smaller than the diameter of this sphere for inserting said sphere of said Metz side joint member.

[0008] Moreover, it has the composition of having prepared heights in the both sides of the inlet-port section of the second slit for said stanchion of said Metz side joint member to insert in and rock so that the width of face of this inlet-port section might become narrower than the diameter of said stanchion.

[0009] moreover, said male side joint member -- said wind direction -- it has composition fabricated to the rotation shaft of a modification plate or said interlocking shaft, and one.

[0010] moreover, said Metz side joint member -- said wind direction -- it has composition fabricated to the rotation shaft of a modification plate or said interlocking shaft, and one.

[0011] moreover, said Metz side joint member and said wind direction -- a connection with the rotation shaft of a modification plate, or said interlocking shaft -- said wind direction -- it has the composition of having prepared the body thicker than the rotation shaft or said interlocking shaft of a modification plate.

[0012] furthermore, any one place of the four corner sections of said makeup panel -- said wind direction -- the driving gear for rotating a modification plate -- preparing -- one driving gear -- four wind directions -- it has composition which a modification plate interlocks and rotates.

[0013]

[Embodiment of the Invention] With the above configurations, it is easy to assemble and becomes a head-lining flush type air conditioner with few components mark.

[0014]

[Example] First, one example of this invention shown by drawing 1 thru/or drawing 5 is explained. Four outlets 2 which turned to a direction which is different on all sides [periphery section] in inlet port 8 in the center of the makeup panel 1 which turned to and installed the lower part in the head-lining side are formed. The modification plate 3 is formed. this outlet 2 -- a wind direction -- a filter 9 on the top face of said inlet port 8 Form the blower fan 11 driven by the motor 10 up, and a heat exchanger 12 is formed in the periphery of the fan 11 of the broadcasting style. With said blower fan 11, indoor air is filtered and inhaled with said filter 9 from said inlet port 8. In a head-lining flush type air conditioner as adjusts a wind direction with the modification plate 3 and comes to blow off the air which carried out heat exchange by said heat exchanger 12 -- said outlet 2 -- said wind direction -- the wind direction fabricated by resin, such as ABS, -- rotation shaft 3a formed in the ends of the modification plate 3 is stopped

rotatable in stop pawl 1b which protruded on the rear face of said makeup panel 1 of the both sides of said outlet 2. two wind directions which three corner sections 1a of said makeup panel 1 is alike, respectively, and adjoin at the include angle of 90 degrees -- with central sphere 4a at each head of rotation shaft 3a of the modification plate 3 The male side joint member 4 which consists of stanchion 4b which protruded from this sphere 4a, and which counters, and semicircle tubed base material 4c which connects the head of this stanchion 4b and surrounds said sphere 4a is really formed with shaping. To 5g of spherules in which package said sphere 4a formed pivotable cylindrical bore 5a smoothly inside, said sphere 4a First slit 5b of width of face smaller than the diameter of this sphere 4a for inserting said sphere 4a in said cylindrical bore 5a is formed in parallel at said cylindrical bore 5a. The Metz side joint member 5 in which second slit 5c for said stanchion 4b inserting in a right angle, and rocking to said cylindrical bore 5a was formed is formed in the ends of the interlocking shaft 6 with one shaping of resin, such as ABS. stanchion 4b which protruded from sphere 4a of said male side joint member 4 and which counters -- said wind direction -- it forms in rotation shaft 3a of the modification plate 3 at a right angle. Cylindrical bore 5a of said Metz side joint member 5 is formed in said interlocking shaft 6 at a right angle, and first slit 5b for inserting said sphere 4a is formed in the side which countered the part which the interlocking shaft 6 connected to 5g of said spherules. Connection of said male side joint member 4 and said Metz side joint member 5 and transfer of the force are performed as follows. From first slit 5b of width of face smaller than the diameter of this sphere 4a, sphere 4a of said male side joint member 4 is pushed in using the elasticity of said Metz side joint member 5, and is dedicated to said cylindrical bore 5a. Turning effort is performed when stanchion 4b which protruded from sphere 4a of said male side joint member 4 and which counters contacts second slit 5c of said Metz side joint member 5. said adjoining wind direction -- the male side joint member 4 prepared at the head of rotation shaft 3a of the modification plate 3 -- the wind direction of an outlet 2 which was alike, respectively, connected the Metz side joint member 5 of said interlocking shaft 6 ends, and was established on all sides [said] -- rotating any one of the modification plates 3 -- said interlocking shaft 6 -- minding -- other wind directions -- the modification plate 3 can be interlocked.

[0015] said male side joint member 4 and said wind direction -- by fabricating the modification plate 3 to one and fabricating said Metz side joint member 5 and said interlocking shaft 6 to one, components mark can be reduced and the precision of a dimension and a configuration can be improved.

[0016] said wind direction -- even if it replaces the shaft of each other which forms said male side joint member 4 which was prepared at the head of rotation shaft 3a of the modification plate 3, and the head of said interlocking shaft 6, and to connect [each other], and said Metz side joint member 5, it acts like the above.

[0017] preparing a drive motor 7 and link mechanism 7a in one place of said corner section 1a, and driving said interlocking shaft 6 -- said four wind directions -- it can interlock and the modification plate 3 can be driven.

[0018] Next, other examples of this invention shown by drawing 6 are explained. The configuration of second slit 5c for the configuration of first slit 5b of width of face smaller than the diameter of this sphere 4a for inserting said sphere 4a of said Metz side joint member 5 and said stanchion 4b of said Metz side joint member 5 to insert in and rock, and said Metz side joint member 5 and configuration of the connection of said interlocking shaft 6 differ from said example.

[0019] It becomes easy to insert sphere 4a of said male side joint member 4 by preparing 5d of taper sections in the both sides of the inlet-port section of said first slit 5b.

[0020] It is hard coming to separate connection to said Metz side joint member 5 and said male side joint member 4 by preparing heights 5e in the both sides of the inlet-port section of said second slit 5c so that the width of face of this inlet-port section may become narrower than the diameter of said stanchion 4b.

[0021] The reinforcement of the root of the second slit 5 c car flank of said Metz side joint member 5 can be improved by preparing the connection of said Metz side joint member 5 and said interlocking shaft 6 5f of bodies thicker than said interlocking shaft 6.

[0022]

[Effect of the Invention] As explained above, according to this invention, it is easy to assemble and becomes a head-lining flush type air conditioner with few components mark.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the sectional view showing this invention and the whole conventional head-lining flush type air conditioner configuration.

[Drawing 2] It is the top view which looked at the makeup panel of the head-lining flush type air conditioner of this invention from the flesh side.

[Drawing 3] It is the important section top view showing one example of the head-lining flush type air conditioner by this invention.

[Drawing 4] It is the enlarged drawing showing the male side joint member of one example of the head-lining flush type air conditioner by this invention, and (A) is [the side elevation of (A) and (C of a top view and (B))] the front views of (A).

[Drawing 5] It is the enlarged drawing showing the Metz side joint member of one example of the head-lining flush type air conditioner by this invention, and (A) is [the front view of (A) and (C of a top view and (B))] the side elevations of (B).

[Drawing 6] It is the enlarged drawing showing the Metz side joint member of other examples of the head-lining flush type air conditioner by this invention, and (A) is a top view and (B) is the front view of (A).

[Drawing 7] It is the important section perspective view of the head-lining flush type air conditioner by the conventional example.

[Description of Notations]

1 Makeup Panel

1a Corner section

2 Outlet

3 Wind Direction -- Modification Plate

3a Rotation shaft

4 Male Side Joint Member

4a Sphere

4b Stanchion

4c Base material

5 Metz Side Joint Member

5a Cylindrical bore

5b The first slit

5c The second slit

5d Taper section

5e Heights

5f Body
 5g Spherule
 6 Interlocking Shaft
 7 Drive Motor
 7a Link mechanism

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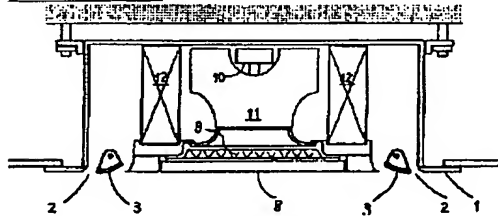
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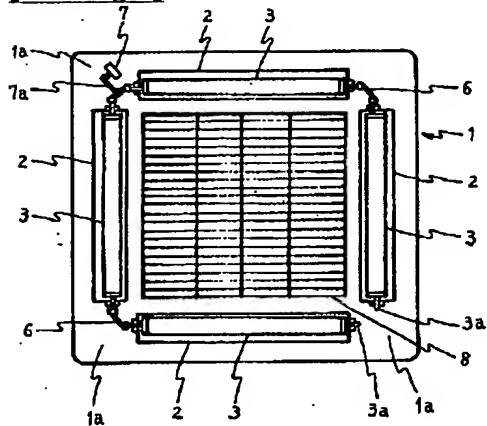
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DRAWINGS

[Drawing 1]



[Drawing 2]



[Drawing 4]

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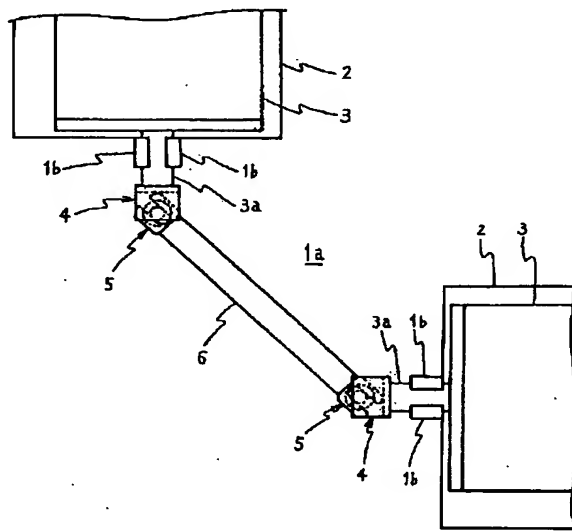
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(54) 【発明の名称】 天井埋込形空気調和機

(57) 【要約】

【課題】 天井埋込形空気調和機の風向変更板を連動させる機構の部品点数を少なくし、組立て易くする。

【解決手段】 前記化粧パネル1の三つのコーナー部1aの隣接する風向変更板3の回転軸3aと、同風向変更板3を連動する連動軸6との一方の軸の先端に、中央の球体4aを囲み前方と両側方を開口した支持体4cと、同支持体4cと前記球体4aの上下とを連結する支柱4bとを備えたオス側継手部材4を設け、もう一方の軸の先端に、前記オス側継手部材4を連結するために内部に円筒穴5aを形成した球状体5gに、前記円筒穴5aに前記球体4aを挿入するための同球体4aの直径より小さな幅の第一スリット5bを前記円筒穴5aに平行に形成し、前記円筒穴5aに直角に前記支柱4bが挿通し揺動するための第二スリット5cを形成したメス側継手部材5を設け、同メス側継手部材5に前記オス側継手部材4を連結した。



【特許請求の範囲】

【請求項 1】 化粧パネルの四辺に吹出口を設け、これら吹出口に風向変更板を夫々設けた天井埋込形空気調和機において、

前記化粧パネルの三つのコーナー部の隣接する風向変更板の回動軸と、同風向変更板を連動する連動軸との一方の軸の先端に、中央の球体を囲み前方と両側方を開口した支持体と、同支持体と前記球体の上下とを連結する支柱とを備えたオス側継手部材を設け、もう一方の軸の先端に、前記オス側継手部材を連結するために内部に円筒穴を形成した球状体に、前記円筒穴に前記球体を挿入するための同球体の直径より小さな幅の第一スリットを前記円筒穴に平行に形成し、前記円筒穴に直角に前記支柱が挿通し揺動するための第二スリットを形成したメス側継手部材を設け、

前記オス側継手部材に、前記メス側継手部材を連結し、前記四辺に設けた吹出口の風向変更板のいずれか一つを回動することにより、前記連動軸を介して他の風向変更板を連動するようにしてなることを特徴とする天井埋込形空気調和機。

【請求項 2】 前記風向変更板の回動軸の先端に前記オス側継手部材を設け、前記連動軸の先端に前記メス側継手部材を設けてなることを特徴とする請求項 1 記載の天井埋込形空気調和機。

【請求項 3】 前記風向変更板の回動軸の先端に前記メス側継手部材を設け、前記連動軸の先端に前記オス側継手部材を設けてなることを特徴とする請求項 1 記載の天井埋込形空気調和機。

【請求項 4】 前記メス側継手部材の前記球体を挿入するための同球体の直径より小さな幅の第一スリットの入口部の両側に、テーパ部を設けてなることを特徴とする請求項 1 乃至請求項 3 記載の天井埋込形空気調和機。

【請求項 5】 前記メス側継手部材の前記支柱が挿通し揺動するための第二スリットの入口部の両側に、同入口部の幅が前記支柱の直径より狭くなるように凸部を設けてなることを特徴とする請求項 1 乃至請求項 4 記載の天井埋込形空気調和機。

【請求項 6】 前記オス側継手部材を、前記風向変更板の回動軸または前記連動軸と一体に成形してなることを特徴とする請求項 1 乃至請求項 5 記載の天井埋込形空気調和機。

【請求項 7】 前記メス側継手部材を、前記風向変更板の回動軸または前記連動軸と一体に成形してなることを特徴とする請求項 1 乃至請求項 6 記載の天井埋込形空気調和機。

【請求項 8】 前記メス側継手部材と前記風向変更板の回動軸または前記連動軸との接続部に、前記風向変更板の回動軸または前記連動軸より太い円筒部を設けてなることを特徴とする請求項 7 記載の天井埋込形空気調和機。

【請求項 9】 前記化粧パネルの四つのコーナー部のいずれか一箇所に、前記風向変更板を回動するための駆動装置を設け、一つの駆動装置にて四つの風向変更板が連動して回動することを特徴とする請求項 1 乃至請求項 8 記載の天井埋込形空気調和機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、天井埋込形空気調和機に係わり、より詳細には、風向変更板の伝達機構の構成に関する。

【0002】

【従来の技術】従来の天井埋込形空気調和機は、図 7 で示すように、四つの風向変更板 3 を連動させる機構として、各風向変更板 3 の回動軸 3 a の先端に、中間要素を十字形部材 2 2 としたユニバーサル継手 2 0 を設け、隣接する風向変更板 3 の軸端のユニバーサル継手 2 0 を連動軸 6 にて連結して連動させる構成であった。

【0003】

【発明が解決しようとする課題】しかしながら、本構成では、十字形部材を用いたユニバーサル継手という比較的複雑で部品点数が多い機構を利用しているため、組立て難く、コストが高い等の問題があった。本発明においては、上記の問題点を鑑み、組立て易く、部品点数の少ない天井埋込形空気調和機を提供することを目的とする。

【0004】

【課題を解決するための手段】本発明は、上記課題を解決するため、化粧パネルの四辺に吹出口を設け、これら吹出口に風向変更板を夫々設けた天井埋込形空気調和機において、前記化粧パネルの三つのコーナー部の隣接する風向変更板の回動軸と、同風向変更板を連動する連動軸との一方の軸の先端に、中央の球体を囲み前方と両側方を開口した支持体と、同支持体と前記球体の上下とを連結する支柱とを備えたオス側継手部材を設け、もう一方の軸の先端に、前記オス側継手部材を連結するために内部に円筒穴を形成した球状体に、前記円筒穴に前記球体を挿入するための同球体の直径より小さな幅の第一スリットを前記円筒穴に平行に形成し、前記円筒穴に直角に前記支柱が挿通し揺動するための第二スリットを形成したメス側継手部材を設け、前記オス側継手部材に、前記メス側継手部材を連結し、前記四辺に設けた吹出口の風向変更板のいずれか一つを回動することにより、前記連動軸を介して他の風向変更板を連動する構成となっている。

【0005】また、前記風向変更板の回動軸の先端に前記オス側継手部材を設け、前記連動軸の先端に前記メス側継手部材を設けた構成となっている。

【0006】また、前記風向変更板の回動軸の先端に前記メス側継手部材を設け、前記連動軸の先端に前記オス側継手部材を設けた構成となっている。

【0007】また、前記メス側継手部材の前記球体を挿入するための同球体の直径より小さな幅の第一スリットの入口部の両側に、テーバー部を設けた構成となっている。

【0008】また、前記メス側継手部材の前記支柱が挿通し揺動するための第二スリットの入口部の両側に、同入口部の幅が前記支柱の直径より狭くなるように凸部を設けた構成となっている。

【0009】また、前記オス側継手部材を、前記風向変更板の回転軸または前記連動軸と一体に成形した構成とな

っている。

【0010】また、前記メス側継手部材を、前記風向変更板の回転軸または前記連動軸と一体に成形した構成とな

っている。

【0011】また、前記メス側継手部材と前記風向変更板の回転軸または前記連動軸との接続部に、前記風向変更板の回転軸または前記連動軸より太い円筒部を設けた構成となっている。

【0012】更に、前記化粧パネルの四つのコーナー部のいずれか一箇所に、前記風向変更板を回転するための駆動装置を設け、一つの駆動装置にて四つの風向変更板が連動して回転する構成となっている。

【0013】

【発明の実施の形態】以上のような構成にて、組立て易く、部品点数の少ない天井埋込形空気調和機となる。

【0014】

【実施例】先ず、図1乃至図5にて示す、本発明の一実施例について説明する。天井面に下方を向いて設置した化粧パネル1の中央に吸込口8を、外周部四辺に異なる方向を向いた四つの吹出口2を設け、同吹出口2に風向変更板3を設け、前記吸込口8の上面にフィルタ9を、上方にモーター10にて駆動される送風ファン11を設け、同送風ファン11の外周に熱交換器12を設け、前記送風ファン11にて、前記吸込口8より室内空気を前記フィルタ9にて濾過して吸込み、前記熱交換器12にて熱交換した空気を前記吹出口2より、前記風向変更板3にて風向を調整して吹き出すようにしてなる天井埋込形空気調和機において、ABS等の樹脂で成形した風向変更板3の両端に形成した回転軸3aを、前記吹出口2の両側の前記化粧パネル1の裏面に突設した係止爪1bにて、回転可能に係止する。前記化粧パネル1の三つのコーナー部1aの夫々にて90°の角度で隣接する二つの風向変更板3の回転軸3aの先端夫々に、中央の球体4aと、同球体4aより突設した対向する支柱4bと、同支柱4bの先端を連結し前記球体4aを囲む半円筒状の支持体4cとよりなるオス側継手部材4を一体成形にて設ける。前記球体4aを包み同球体4aが内部で滑らかに回転可能な円筒穴5aを形成した球状体5gに、前記円筒穴5aに前記球体4aを挿入するための同球体4aの直径より小さな幅の第一スリット5bを前記円筒穴

5aに平行に形成し、前記円筒穴5aに直角に前記支柱4bが挿通し揺動するための第二スリット5cを形成したメス側継手部材5を連動軸6の両端に、ABS等の樹脂の一体成形にて設ける。前記オス側継手部材4の球体4aより突設した対向する支柱4bは、前記風向変更板3の回転軸3aに直角に形成する。前記メス側継手部材5の円筒穴5aは前記連動軸6に直角に形成され、前記球体4aを挿入するための第一スリット5bは前記球状体5gに連動軸6が接続した部分に対向した側に形成する。前記オス側継手部材4と前記メス側継手部材5の連結と力の伝達は、次のようにして行われる。前記オス側継手部材4の球体4aを、同球体4aの直径より小さな幅の第一スリット5bより、前記メス側継手部材5の弾性を利用して押し込み、前記円筒穴5aに納める。回転力は、前記オス側継手部材4の球体4aより突設した対向する支柱4bが、前記メス側継手部材5の第二スリット5cに当接することにより行われる。前記隣接する風向変更板3の回転軸3aの先端に設けたオス側継手部材4夫々に、前記連動軸6両端のメス側継手部材5を連結し、前記四辺に設けた吹出口2の風向変更板3のいずれか一つを回転することにより、前記連動軸6を介して他の風向変更板3を連動することができる。

【0015】前記オス側継手部材4と前記風向変更板3とを一体に成形し、前記メス側継手部材5と前記連動軸6とを一体に成形することにより、部品点数を削減し、寸法と形状の精度を向上することができる。

【0016】前記風向変更板3の回転軸3aの先端と前記連動軸6の先端とに設けた、互いに連結する前記オス側継手部材4と前記メス側継手部材5とを、設ける軸を互いに入れ換えても、上記同様に作用する。

【0017】前記コーナー部1aの一箇所に、駆動モーター7とリンク機構7aを設け、前記連動軸6を駆動することにより、前記四つの風向変更板3を連動して駆動することができる。

【0018】次に、図6にて示す、本発明の他の実施例について説明する。前記実施例とは、前記メス側継手部材5の前記球体4aを挿入するための同球体4aの直径より小さな幅の第一スリット5bの形状と、前記メス側継手部材5の前記支柱4bが挿通し揺動するための第二スリット5cの形状と、前記メス側継手部材5と前記連動軸6の接続部の形状とが異なる。

【0019】前記第一スリット5bの入口部の両側に、テーバー部5dを設けることにより、前記オス側継手部材4の球体4aが挿入し易くなる。

【0020】前記第二スリット5cの入口部の両側に、同入口部の幅が前記支柱4bの直径より狭くなるように凸部5eを設けることにより、前記メス側継手部材5と前記オス側継手部材4との連結が、外れ難くなる。

【0021】前記メス側継手部材5と前記連動軸6の接続部に、前記連動軸6より太い円筒部5fを設けること

により、前記メス側継手部材5の第二スリット5c両側部の付け根の強度を向上することができる。

【0022】

【発明の効果】以上説明したように、本発明によれば、組立て易く、部品点数の少ない天井埋込形空気調和機となる。

【図面の簡単な説明】

【図1】本発明および従来の天井埋込形空気調和機の全体構成を示す断面図である。

【図2】本発明の天井埋込形空気調和機の化粧パネルを裏から見た平面図である。

【図3】本発明による天井埋込形空気調和機の一実施例を示す要部平面図である。

【図4】本発明による天井埋込形空気調和機の一実施例のオス側継手部材を示す拡大図で、(A)は平面図、(B)は(A)の側面図、(C)は(A)の正面図である。

【図5】本発明による天井埋込形空気調和機の一実施例のメス側継手部材を示す拡大図で、(A)は平面図、(B)は(A)の正面図、(C)は(B)の側面図である。

【図6】本発明による天井埋込形空気調和機の実施例のメス側継手部材を示す拡大図で、(A)は平面図、(B)は(A)の正面図である。

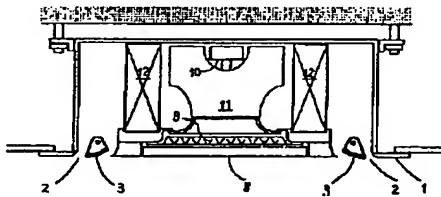
*

*【図7】従来例による天井埋込形空気調和機の要部斜視図である。

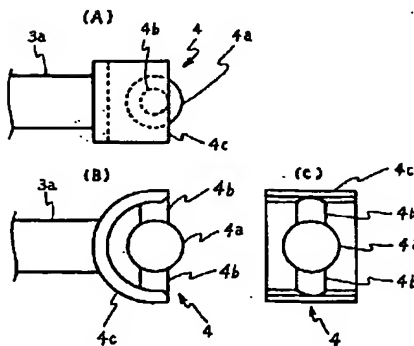
【符号の説明】

- 1 化粧パネル
- 1a コーナー部
- 2 吹出口
- 3 風向変更板
- 3a 回動軸
- 4 オス側継手部材
- 4a 球体
- 4b 支柱
- 4c 支持体
- 5 メス側継手部材
- 5a 円筒穴
- 5b 第一スリット
- 5c 第二スリット
- 5d テーパー部
- 5e 凸部
- 5f 円筒部
- 5g 球状体
- 6 連動軸
- 7 駆動モーター
- 7a リンク機構

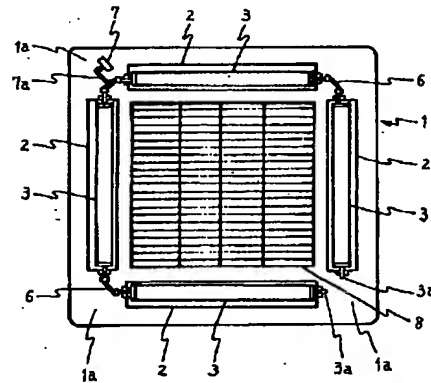
【図1】



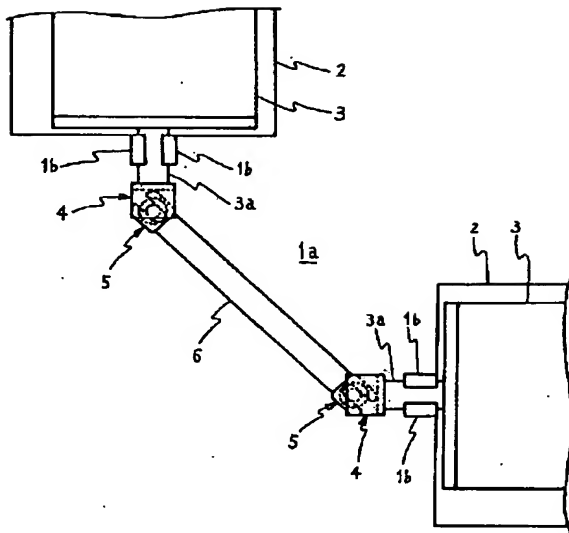
【図4】



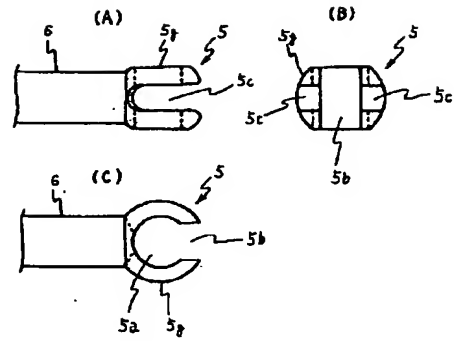
【図2】



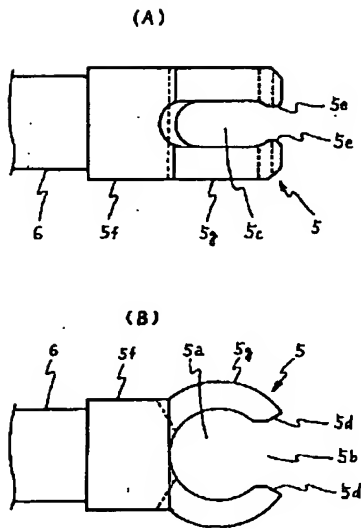
【図3】



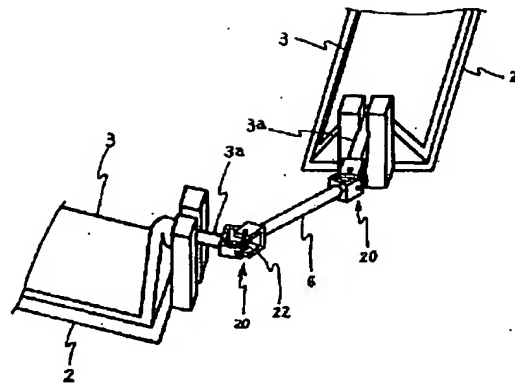
【図5】



【図6】



【図7】



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